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(54) Gas burner for cooking

(57) A star-shaped gas cooker burner head has a series of radial legs which provide a pan support and comprise a gas manifold 3 and a snug fitting cap 2. Gas ports 13 are defined by notches 12 in the manifold and by the cap and may be arranged on one side only of asymmetrical legs, Fig 3, and radiating from the centre of the burner head. Holes 14 in the bases of the legs supply a pilot flame between the bottom of the manifold and a base member 4. Alternatively the cap comprises two orthogonal mating members (Fig 6, not shown).

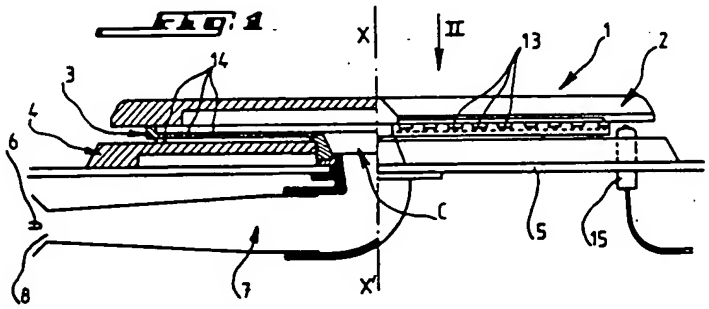


Fig 1

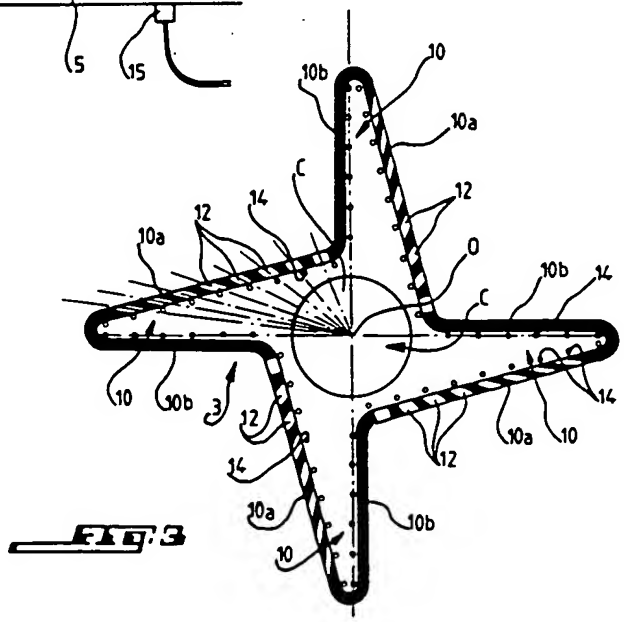


Fig 3

Fig. 1

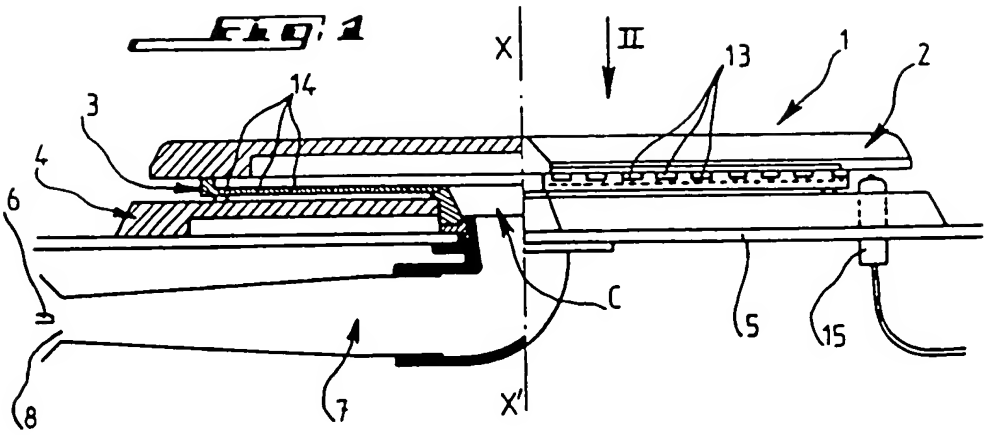
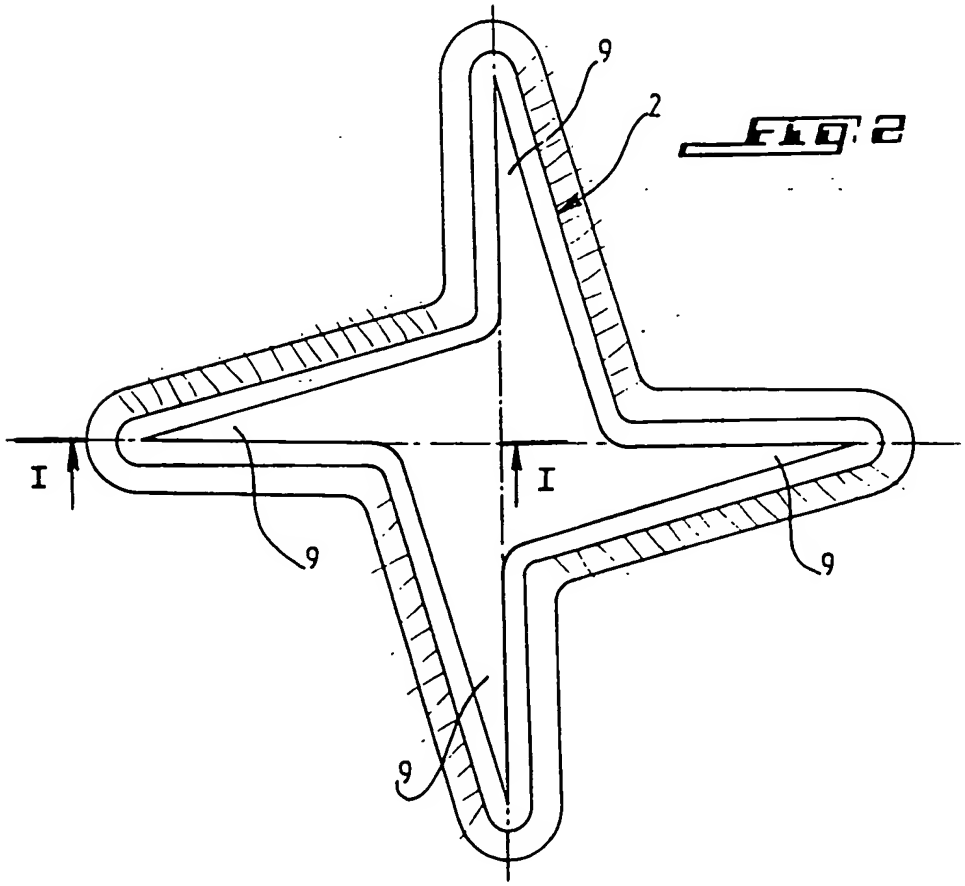


Fig. 2



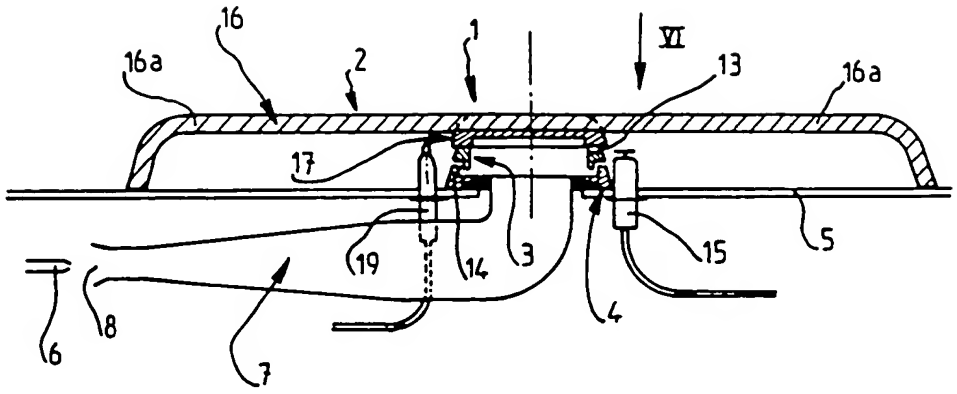


Fig. 5

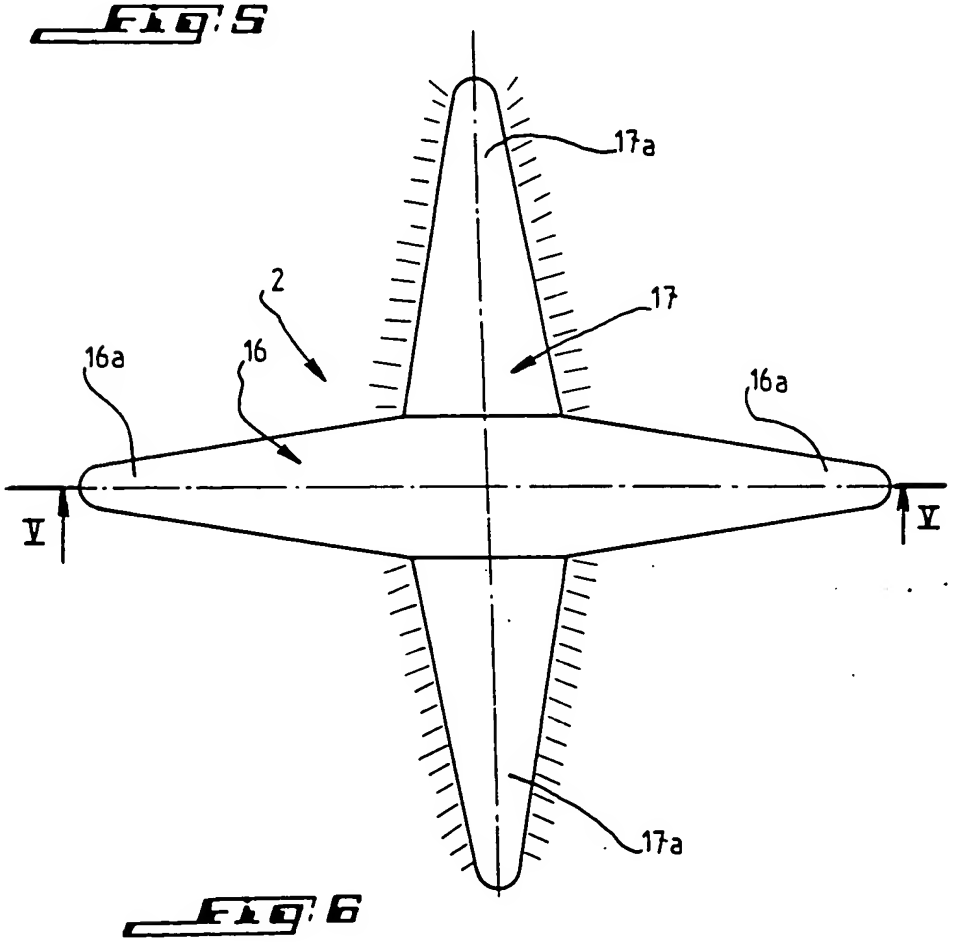


Fig. 6

GAS BURNER FOR COOKING

The present invention relates essentially to a gas burner for a cooking table, a cookstove or cooker or the like.

It is known that the cooking tables or the cookstoves or cookers are generally fitted with several gas burners allowing to heat vessels having various shapes.

More specifically the bottom of the vessels to be heated rests upon a grate or the like interposed between the said bottom and the burner and bearing most frequently upon the table or the plate fitted with the burner.

Now the provision of such a grate is not only unaesthetic but constitutes an additional element to be kept in repair and hinders or interferes with the accessibility to the burners and to the table top for cleaning purposes.

Therefore the object of the present invention is to cope in particular with the above-mentioned inconveniences by providing an improved gas burner allowing to dispense with a grate for supporting the vessels or containers to be heated.

For that purpose the subject matter of the invention is a gas burner for a cooking table, a cookstove or cooker or the like and of the type comprising a head with gaz outlet ports or openings, characterized in that the said head consists of several legs extending from the center or middle of the head in order that these legs directly perform the function of a stable support or holder for any vessel or container whatsoever.

This burner is further characterized in that the legs of the head are at least three in number and form a regular or deformed star.

According to an examplary embodiment the head of the burner consists of a cap, cover or lid topping a part forming a gas manifold or gas rail, the cap or cover and the part exhibiting both substantially the same shape

advantages thereof will appear more clearly as the following explanatory description proceeds with reference to the accompanying diagrammatic drawings given by way of non limiting examples only illustrating several presently preferred specific embodiments of the invention and wherein:

- Figure 1 is an elevational half-view and a half-view in cross-section taken upon the line I-I of Figure 2 showing a first embodiment of a gas burner according to the principles of the invention;

- Figure 2 is a plan top view of this burner seen in the direction of the arrow II of Figure 1 and essentially illustrating the shape of the cap or cover of this burner;

- Figure 3 is a plan top view of the part forming a gas manifold or rail covered by the cap;

- Figure 4 is a plan top view of a base member receiving the part forming a gas manifold or rail itself topped by the cap;

- Figure 5 is a view in cross-section taken upon the line V-V of Figure 6 showing another embodiment of the gas burner according to this invention;

- Figure 6 is a top view of this burner viewed in the direction of the arrow VI of Figure V;

- Figure 7 is a plan top view showing one of the elements of the cap of this burner;

- Figure 8 is a plan top view of the part forming a gas manifold or rail of this burner;

- Figure 9 is an elevational side view showing said part forming a gas manifold or rail;

- Figure 10 is a plan top view of the base member of the burner according to Figure 5; and

- Figure 11 is an elevational view with a sectional half-view of the burner of Figure 5, a vessel directly resting upon this burner.

According to the examplary embodiment shown on Figures 1 to 4 a burner according to this invention essentially comprises a head 1 consisting of a cap or

to eventually constitute ports designated at 13 on Figure 1 and constituting the gas or flame outlet ports.

As well seen on Figure 3 the axes of the ports 13 consisting mostly of the crenels 12 all extend substantially through the centre or middle point O of the head of the burner, i.e. along the axis X-X' of said head where the fuel gas feed duct or pipeline portion 7 is opening. Of course as well seen on Figures 1, 3 and 4 the base member 4 and the part 3 forming a gas manifold comprise a central opening C allowing the passage of the gas flowing from the duct 7.

It should be pointed out here that the four legs of the cap 2, of the part 3 and of the base member 4 exhibit according to the example shown a tapering shape and that the crenels 12 are only provided on one half 10a of each leg 10 and this as well seen on Figure 3 in symmetrical relationship such that between each leg half 10a with the crenels 12 there is provided another leg half 10b without or devoid of crenels 12. It has been found that such a substantially star-shaped arrangement of the four gas manifolds 10a achieves an outstanding distribution of the temperature within the heated vessels directly supported on the cap 2.

At 14 on Figures 1 and 3 have been shown small openings formed in the part 3 on the entire periphery of that part, i.e. which extend below the crenels 12 along the halfs 10a, 10b of the four legs 10 of the part 3. The gas arriving through the duct portion 7 and flowing out through these small holes 14 would flow within the space left between the part 3 and the base member 4 so as to form after ignition thereof a pilot flame all around the head 1 of the burner underneath the part 3 forming a gas manifold.

At 15 on Figure 1 is shown an ignition system shaped as a spark plug 15 which is arranged underneath the cap 2 and is therefore protected or shielded by this cap.

Another embodiment of the gas burner according

Taking into account all what has been previously set forth it is understood that the base member 4, the part 3 and the element 17 of the cap 2 have all the three of them substantially the same shapes and constitute the heating portion of the burner and a portion of the support for a vessel R whereas the element 16 of the cap 2 as well seen on Figure 11 only performs the function of a support for the vessel.

The embodiment of the burner seen on Figures 5 to 11 offers undisputable qualities in particular from the cleaning standpoint in view of its removable character, it being understood that as with the embodiment first described the vessel R will be directly supported in a stable manner by the head of the burner.

At last at 19 on Figure 5 is shown a flame safety thermocouple which may possibly fit either embodiment of the burner.

There has therefore been provided according to the invention a gas burner for a cooking table or range for instance which advantageously eliminates the use of a grate for supporting vessels, which accordingly exhibit a reduced height and which may be easily removed and cleaned and which achieves an outstanding distribution of the temperatures.

The invention is of course not at all limited to the embodiments described and illustrated which have given by way of examples only.

Thus the generally star-shaped configuration of the head of the burner upon which the vessel is resting may be variable as well as the number and the arrangement of the gas outlet ports. The general shape and design of this burner could also allow the provision of an electrically heated element.

Therefore the invention comprises all the technical equivalents of the means described as well as their combinations if the latter are carried out according to its gist and within the scope of the appended claims.

the legs of the cap, of the manifold and of the base member are of tapering shape.

8. A burner according to any preceding claim, wherein the cap protects an ignition system and optionally a flame safety thermocouple, arranged underneath said cap.

9. A gas burner substantially as hereinbefore described with reference to and as illustrated by Figs. 1 to 4 or Figs. 5 to 11 of the accompanying drawings.

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